

Presenter

These are the four main components of our Hazard Communication Program.

cation

SPACEX

- Material Safety Data Sheets
- Labeling
- Training
- Written Program



CONFIDENTIAL

JUAREZ V PVA SPX002044

Purpose of OSHA's Hazard Communication Standard

SPACEX

To ensure that employers and employees know about work hazards and how to protect themselves so that the incidence of illnesses and injuries due to hazardous chemicals is reduced.

Hazard Communication Program

Program

CONFIDENTIAL

Container Labeling



Material Safety Data Sheet

MSDS

JUAREZ V PVA SPX002049

Employer Responsibilities



- Identify and list hazardous chemicals in their workplaces
- Obtain Material Safety Data Sheets (MSDSs)
- Implement a written HazCom program
- Communicate hazard information to employees through labels, MSDSs, and formal training programs

Presenter

The list of hazardous chemicals here can be found in the Table of Contents in our big blue MSDS books as well as in our online archive. All products that arrive at our facility should have the MSDS with it. If it does not, please contact the EHS Department. It is also vital that for those of you that can, and do, order chemicals, is to ensure that the included MSDS is promptly passed on to the EHS Department for entry into our MSDS archives. This is key to staying safe and in compliance.

SPACEX

hazardous chemicals in their

- Obtain Material Safety Data Sheets (MSDSs)
- Implement a written HazCom program
- Communicate hazard information to employees through labels, MSDSs, and formal training programs

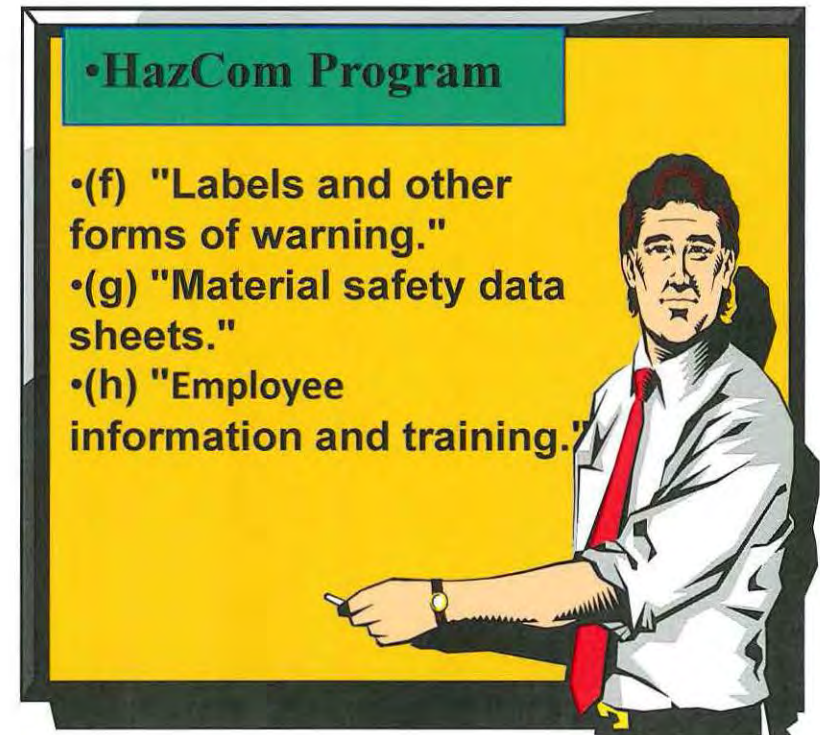
CONFIDENTIAL

JUAREZ V PVA SPX002044

Why is a written program required?

SPACEX

- Ensures that all employers receive the information they need to inform and train their employees
- Provides necessary hazard information to employees



CONFIDENTIAL

JUAREZ V PVA SPX002051

Why is a written program required?

Presenter

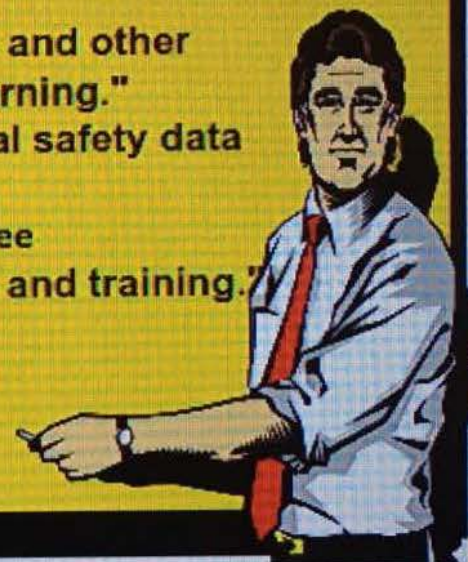
The written program provides the foundation for our Hazard Communication Program.

SPACEX

- Ensures that all employers receive the information they need to inform and train their employees
- Provides necessary hazard information to employees

•HazCom Program

- (f) "Labels and other forms of warning."
- (g) "Material safety data sheets."
- (h) "Employee information and training."



CONFIDENTIAL

JUAREZ V PVA SPX002044

Written HazCom Program Requirements

SPACEX

- Describes container labeling, MSDSs, and employee training for each workplace
- List of the hazardous chemicals
- Make available information regarding hazards and protective measures to other employers onsite

CONFIDENTIAL

JUAREZ V PVA SPX002052

How can workplace hazards be minimized?



- The first step in minimizing workplace hazards is to perform a thorough hazard assessment
- Employers can rely on the evaluations performed by the manufacturers or importers to establish the hazards of the chemicals they use
 - This information is obtained from MSDSs and labels

How can workplace hazards

SPACEX

Presenter

Chemical manufacturers and importers must review scientific evidence on the hazards of chemicals they produce or import and report findings to their employees and to employers who distribute or use their products.

- The first step in minimizing workplace hazards is to perform a thorough hazard assessment
- Employers can rely on the evaluations performed by the manufacturers or importers to establish the hazards of the chemicals they use
 - This information is obtained from MSDSs and labels

CONFIDENTIAL

JUAREZ V PVA SPX002044

Confidential

How Must Chemicals be Labeled?

SPACEX

Each container of hazardous chemicals entering the workplace must be labeled or marked with:

- **Identity** of the chemical*
- Appropriate **hazard warnings***
- **Name and address** of the responsible party (manufacturer or distributor)

*Required on secondary container label



CONFIDENTIAL

JUAREZ V PVA SPX002054

How Must Chemicals be Labeled?

SPACEX

Presenter

Chemical manufacturers and importers must convey the hazard information to downstream employers by means of labels on containers and Material Safety Data Sheets (MSDSs). Language used on the warning label does not have to be identical to that on the MSDS.

A secondary container is a container that is filled from a larger, primary container such as a 55 gallon Acetone drum for example. The secondary container label does not need the name and address of the manufacturer or distributor, just the name of the chemical and its primary hazard.

Consumer products having labels meeting requirements of the Consumer Product Safety Act do not have to have additional labeling under the HazCom Standard.

ardous chemicals
e must be

h:

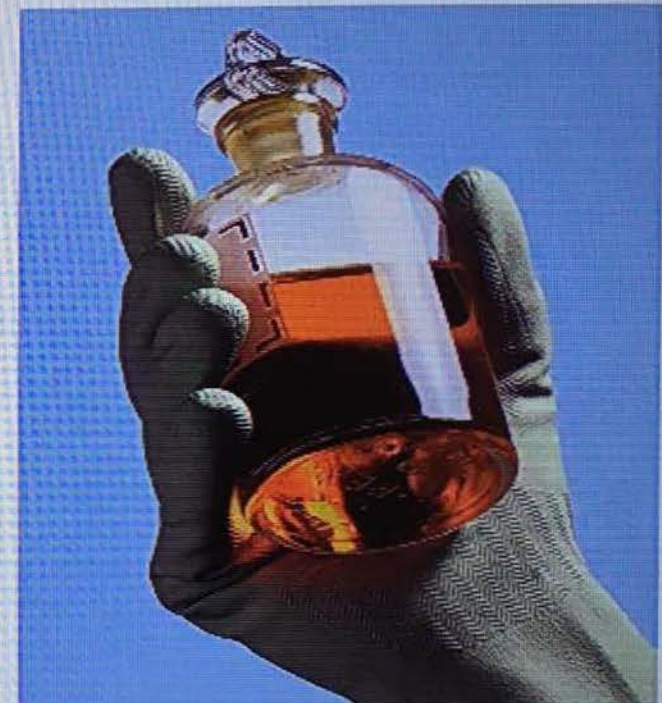
hemical*

ard warnings*

ess of the

y (manufacturer

ndary container



label

CONFIDENTIAL

JUAREZ V PVA SPX002044

Container Labeling in the Workplace

Confidential

SPACEX

- The hazard warning can be any type of message, picture, or symbol that provides information on the hazards of the chemical(s)
- Labels must be legible, in English (plus other languages, if desired), and prominently displayed



CONFIDENTIAL

JUAREZ V PVA SPX002055

Confidential
Material Safety Data Sheet

SPACEX



CONFIDENTIAL

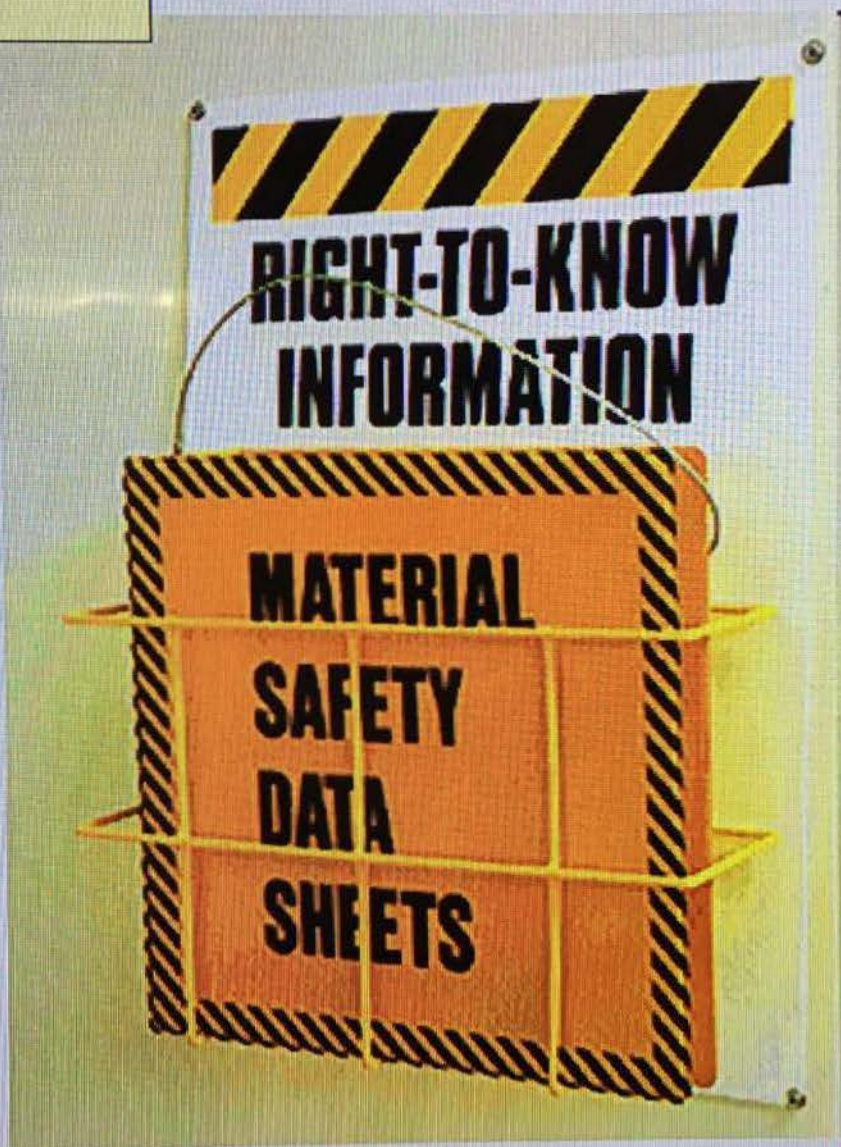
JUAREZ V PVA SPX002056

Presenter

A Material Safety Data Sheet (MSDS) is one of the most critical components of our Hazard Communication program.

Sheet

SPACEX



CONFIDENTIAL

JUAREZ V PVA SPX002044

Material Safety Data Sheets



Prepared by the chemical manufacturer, distributor, or importer and describe:

- Identity of hazardous chemicals
- Physical hazards, such as fire and explosion
- Health hazards, such as signs of exposure
- Routes of exposure
- Precautions for safe handling and use
- Emergency and first-aid procedures
- Control measures

Material Safety Data Sheets

SPACEX

Presenter

Chemical manufacturers and importers must develop an MSDS for each hazardous chemical they produce or import, and must provide the MSDS at the time of the initial shipment to a downstream distributor or user. Distributors also must ensure that downstream employers are similarly provided an MSDS.

The MSDSs must be updated by the chemical manufacturer or importer within three months of learning of "new or significant information" regarding the chemical's hazard potential.

OSHA does not require that MSDSs be provided to purchasers of household consumer products (such as "windex" and "white-out") when the products are used in the workplace in the same manner that a consumer would use them, i.e.; where the duration and frequency of use (and therefore exposure) is not greater than what the typical consumer would experience. Employees who are required to work with hazardous chemicals in a greater duration and frequency of exposure than a normal consumer have a right to know about the properties of those hazardous chemicals.

Chemical manufacturer,
importer and describe:

Hazardous chemicals

, such as fire and explosion

such as signs of exposure

are

safe handling and use

first-aid procedures

s

JUAREZ V PVA SPX002044

Material Safety Data Sheets



- Must be in English and include information regarding the specific chemical identity and common names
- Must provide information about the:
 - Physical and chemical characteristics
 - Health effects
 - Exposure limits
 - Carcinogenicity (cancer-causing)
 - Identification (name, address, and telephone number) of the organization responsible for preparing the sheet
- Must be readily accessible to employees in their work area during all work shifts

Presenter

Our MSDS's are always available in our online archive as well as in the big blue MSDS books in the kitchen area.

MSDS Data Sheets

SPACEX

- Must be in English and include information regarding the specific chemical identity and common names
- Must provide information about the:
 - Physical and chemical characteristics
 - Health effects
 - Exposure limits
 - Carcinogenicity (cancer-causing)
 - Identification (name, address, and telephone number) of the organization responsible for preparing the sheet
- Must be readily accessible to employees in their work area during all work shifts

CONFIDENTIAL

JUAREZ V PVA SPX002044



- [illegible]

60

MSDS - Trade Secrets



- A "trade secret" is something that gives an employer an opportunity to obtain an advantage over competitors who do not know about the trade secret or who do not use it
- Includes the chemical name, the Chemical Abstracts Services (CAS) Registry Number, or any other specific information that reveals the precise designation

MSDS - Trade Secrets



- It does not extend to PELs or TLVs
 - If the hazardous chemical or a component thereof has a PEL or TLV, this must be reflected on the MSDS
- Limited disclosure of trade secrets to health professionals who are furnishing medical or other occupational health services to exposed employees, employees and their designated representatives, under specified conditions of need and confidentiality

MSDS - Trade Secrets

The SpaceX logo, featuring the word "SPACEX" in a blue, sans-serif font, with a stylized white and blue "X" to the right.

Disclosure in a Medical Emergency

- The chemical manufacturer, importer, or employer must immediately disclose the specific chemical identity of a hazardous chemical to a treating physician or nurse when the information is needed for proper emergency or first-aid treatment
- As soon as circumstances permit, the chemical manufacturer, importer, or employer may obtain a written statement of need and a confidentiality agreement

Confidential Training

SPACEX

Training is required for employees who are exposed to hazardous chemicals in their work area:

- At the time of initial assignment
- Whenever a new hazard is introduced into their work area



CONFIDENTIAL

JUAREZ V PVA SPX002063

SPACEX

Presenter

Managers, in conjunction with the EHS Department, will ensure that all of their employees are trained in the safe use of all hazardous substances introduced into their workplace.

Training is required for employees who are exposed to hazardous chemicals in their work area:

- At the time of initial assignment
- Whenever a new hazard is introduced into their work area



CONFIDENTIAL

JUAREZ V PVA SPX002044

What training is needed to protect workers?

The SpaceX logo, featuring the word "SPACEX" in a blue, sans-serif font, with a stylized white and blue swoosh to the right of the text.

- Explanation of the HazCom program, including information on labels, MSDSs, and how to obtain and use available hazard information
- Hazards of chemicals
- Protective measures such as engineering controls, work practices, and the use of PPE
- How to detect the presence or release of a hazardous chemical (using monitoring devices, observation, or smell)

What training is needed to

Presenter

The MSDS is the primary source for hazard communication training. In it you will find information on the hazards of chemicals, what Personal Protective Equipment (PPE) is required to keep you safe, what sort of work practices should be used, how to detect the presence of the chemical and what to do in the event of a leak or spill.

SPACEX

the HazCom program, including
labels, MSDSs, and how to obtain and
use available hazard information

- Hazards of chemicals
- Protective measures such as engineering controls, work practices, and the use of PPE
- How to detect the presence or release of a hazardous chemical (using monitoring devices, observation, or smell)

CONFIDENTIAL

JUAREZ V PVA SPX002044

Confidential Proposition 65

SPACEX

- Safe Drinking Water and Toxic Enforcement Act added to Hazard Communication in 1991
- Requires the governor to publish a list of chemicals known to the State of California to cause cancer, birth defects, or reproductive harm

Proposition 65

Confidential

SPACEX

- List of chemicals may be found at the California Office of Environmental Health Hazard Assessment's website:

www.oehha.ca.gov

- Full text of Prop 65 is in T22CCR, Section 12000 et seq.

Confidential
Proposition 65

SPACEX

WARNING

**THIS AREA CONTAINS CHEMICALS KNOWN TO
THE STATE OF CALIFORNIA TO CAUSE CANCER
AND BIRTH DEFECTS OR OTHER REPRODUCTIVE
HARM.**

CONFIDENTIAL

JUAREZ V PVA SPX002067

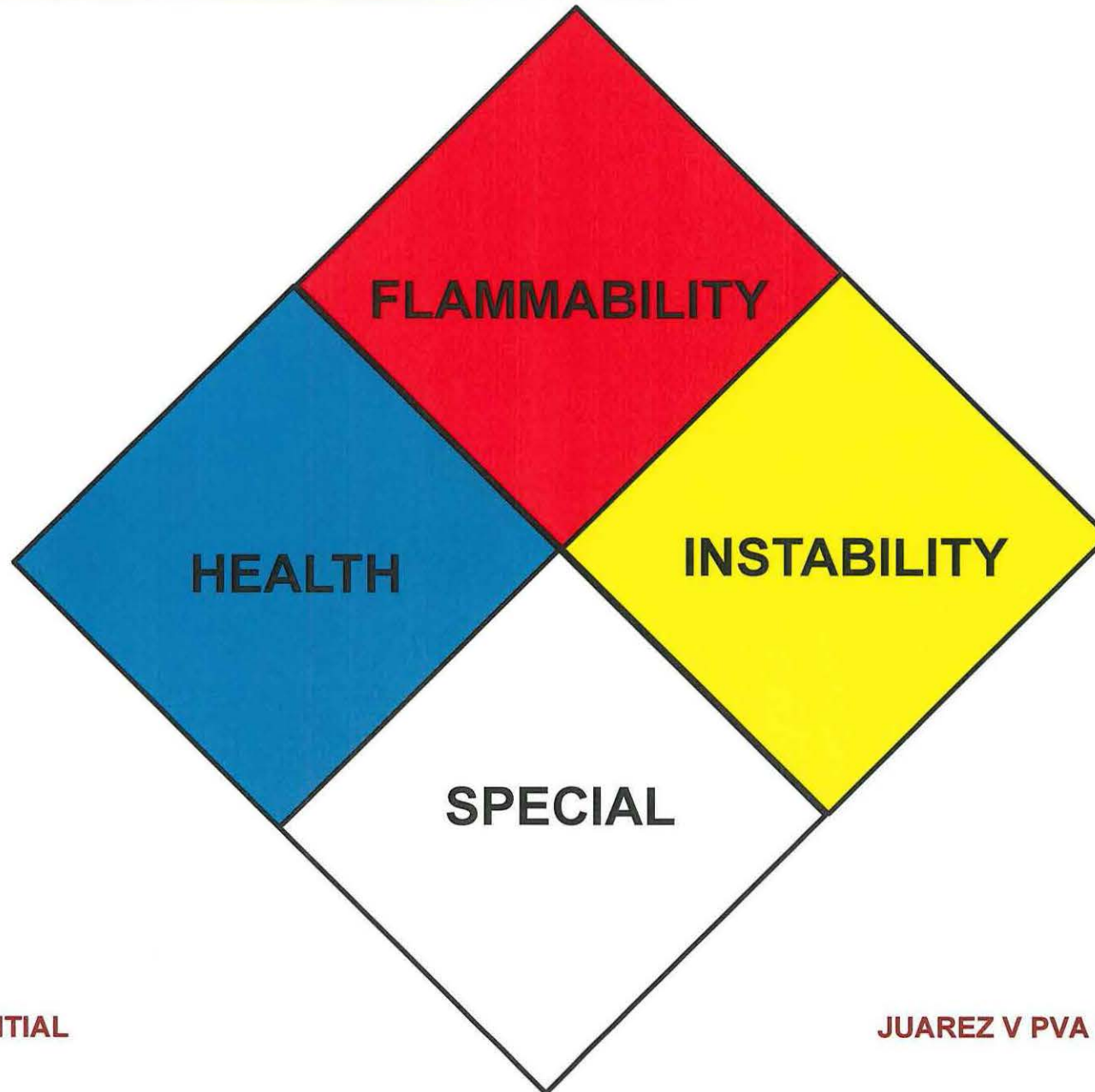
NFPA 704 Rating System



- NFPA - National Fire Protection Agency
 - Writes many standards incorporated by OSHA
- Applicable to us here at SpaceX since we use and store hazardous materials
- Different from Department of Transportation designations

The NFPA Diamond

SPACEX



CONFIDENTIAL

JUAREZ V PVA SPX002069

Where Are They Here?

The SpaceX logo, featuring the word "SPACEX" in a blue, sans-serif font, with a stylized white and blue swoosh graphic to the right of the text.

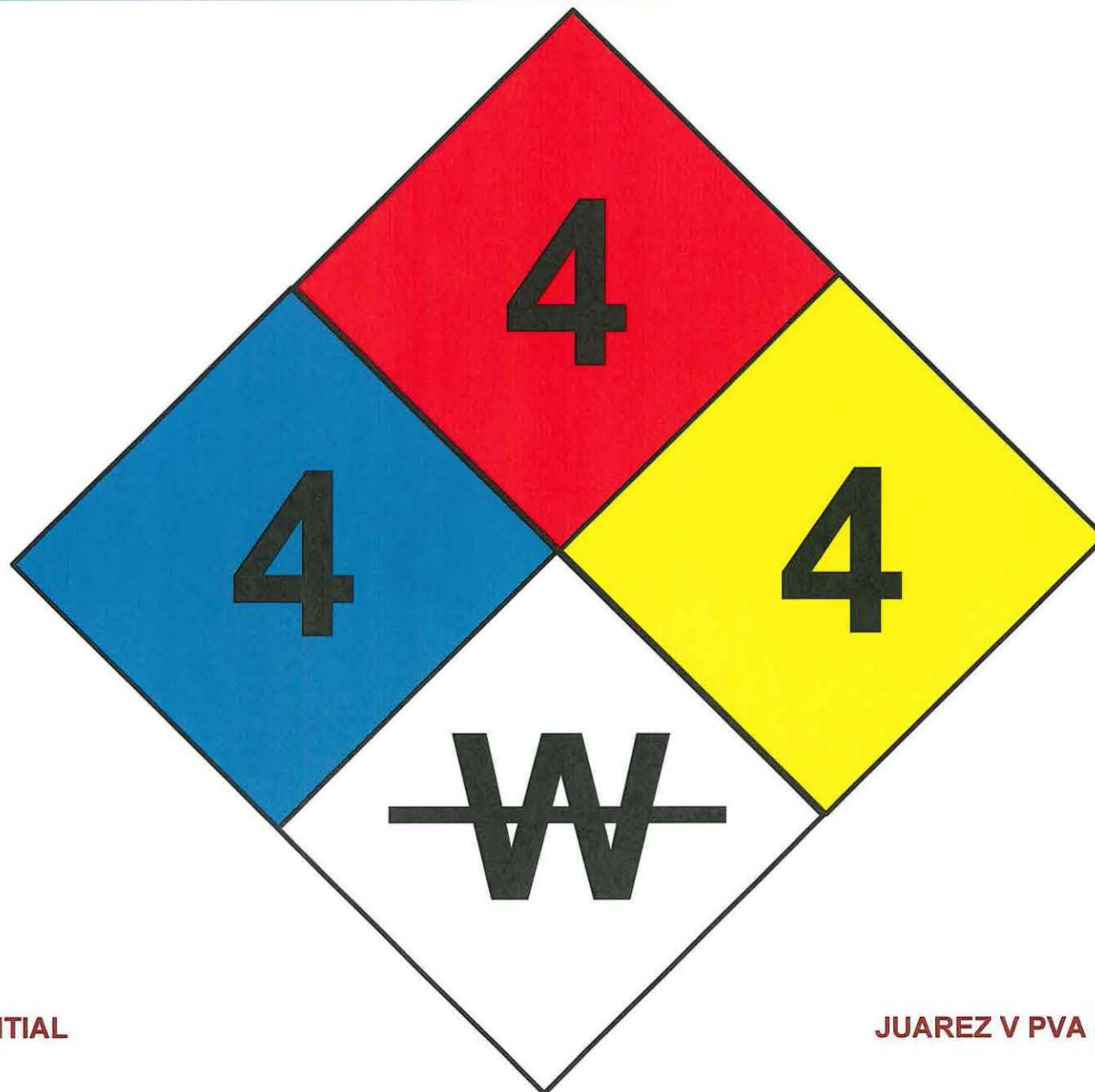
- On the corners of the main building where the driveways enter the complex.
- On the outside of the various enclosed work areas inside the building.
- On some chemical labels where the diamond does represent the chemical hazards inside.

CONFIDENTIAL

JUAREZ V PVA SPX002070

Confidential
An Example

SPACEX



CONFIDENTIAL

JUAREZ V PVA SPX002071

Other Important Labels

SPACEX

- Department of Transportation (DOT)
 - 9 hazard classes
 - Specific colors and designs
 - You see them around here



CONFIDENTIAL



JUAREZ V PVA SPX002072

Confidential
Summary












- OSHA's Hazard Communication Standard is based on a simple concept - that employees have both a need and a right to know the hazards and identities of the chemicals they are exposed to when working
- Employees also need to know what protective measures are available to prevent adverse effects from occurring

The Future . . .



GHS Pictograms and Hazard Classes

		
<ul style="list-style-type: none"> ▪ Oxidizers 	<ul style="list-style-type: none"> ▪ Flammables ▪ Self Reactives ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Organic Peroxides 	<ul style="list-style-type: none"> ▪ Explosives ▪ Self Reactives ▪ Organic Peroxides
		
<ul style="list-style-type: none"> ▪ Acute toxicity (severe) 	<ul style="list-style-type: none"> ▪ Corrosives 	<ul style="list-style-type: none"> ▪ Gases Under Pressure
		
<ul style="list-style-type: none"> ▪ Carcinogen ▪ Respiratory Sensitizer ▪ Reproductive Toxicity ▪ Target Organ Toxicity ▪ Mutagenicity ▪ Aspiration Toxicity 	<ul style="list-style-type: none"> ▪ Environmental Toxicity 	<ul style="list-style-type: none"> ▪ Irritant ▪ Dermal Sensitizer ▪ Acute toxicity (harmful) ▪ Narcotic Effects ▪ Respiratory Tract Irritation

CONFIDENTIAL

JUAREZ V PVA SPX002074

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on August 24, 2018, a true and correct copy of **DECLARATION OF GREGORY E. MAXWELL IN SUPPORT OF DEFENDANT PRECISION VALVE & AUTOMATION, INC.'S MOTION FOR SUMMARY JUDGMENT** has been served via ECF upon all counsel of record in the Court's electronic filing system.

By: /s/ Jerry Dumlao

Becherer
Kannett &
Schweitzer

1255 Powell St.
Emeryville, CA
94608
510-658-3600